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INTRODUCTION TO ORGANIC FARMING

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DEFINING "ORGANIC"

Organic farming is a method of crop and livestock production that involves much more than choosing not to use certain pesticides, fertilizers, genetically modified organisms, antibiotics, and growth hormones that are not permitted by organic standards.

The general principles of organic production, from Canada's Organic Standards, 2006, include the following:

- protect the environment, minimize soil degradation and erosion, decrease pollution, optimize biological productivity and promote a sound state of health
- maintain long-term soil fertility by optimizing conditions for biological activity within the soil
- maintain biological diversity within the system
- recycle materials and resources to the greatest extent possible within the enterprise
- provide attentive care that promotes the health and meets the behavioural needs of livestock
- prepare organic products, emphasizing careful processing, and handling methods in order to maintain the organic integrity and vital qualities of the products at all stages of production
- rely on renewable resources in locally organized agricultural systems

Many organic farmers believe that a successful organic system begins with the soil — a healthy soil produces healthy plants and, in turn, healthy livestock and people. They regard soil as a living organism of inter-dependent processes and life forms.

Organic farming promotes the use of crop rotations and cover crops, and encourages balanced host/predator relationships. Organic residues and nutrients produced on the farm are recycled back to the soil. Cover crops and composted manure are used to maintain soil organic matter and fertility. Preventative insect and disease control methods are practiced, including crop rotation, improved genetics and resistant varieties. Integrated pest and weed management, and soil conservation systems are valuable tools on an organic farm. Organically approved pesticides include "natural" or non-synthetic pesticides as indicated in the Permitted Substances List of the organic standards. These products must be registered for use in the specific crop-pest situation by federal and provincial regulations and approved for use by the organic certification body. All grains, forages and protein supplements fed to livestock must be organically grown.

Organic food production prohibits using highly soluble or synthetically compounded mineral fertilizers, synthetically compounded pesticides, growth regulators, antibiotics, hormones, colouring or other artificial additives, ionizing radiation, and recombinant genetic engineered plants or animals (genetically engineered organisms — GEO). Prohibited products and practices must not be used on certified organic farms for at least three years prior to harvest of the certified organic products. Livestock must be raised organically and fed 100% organic feed ingredients.

Organic farming presents many challenges. Some crops are more challenging than others to grow organically. However, nearly every commodity can be produced organically. There are successful organic farmers in every county in Ontario producing almost every commodity.

GROWTH OF ORGANIC

The world market for organic food has shown consistent growth for over 15 years. Growth of retail sales in North America is predicted to be 15%–20% per year in the next few years. The retail organic food market in Canada is estimated at $1.3 billion in 2005 and $15 billion (CDN) in the U.S. It is estimated that imported products make up over 85% of the organic food consumed in Canada. The

majority of Canada's organically produced commodities are exported. This is especially true of soybean and grain crops.

The Canadian Organic Growers association reported 497 certified organic farms in Ontario in 2005.

WHY FARM ORGANICALLY?

The main reasons farmers grow organically are concerns about the effects of chemicals on health and the effects of conventional farming on soil quality and conservation.

Organic farming is seen as a steady growth market with many opportunities. Farmers are concerned about the environment. They are also concerned about the amount of energy used in agriculture, since many farm chemicals have energy intensive manufacturing processes that rely heavily on fossil fuels.

Some farmers view organic farming as part of the solution to meeting the challenges of modern day agriculture. Organic farmers find their method of farming to be profitable and personally rewarding.

WHAT IS "CERTIFIED ORGANIC"

Certified organic is a term given to products produced according to organic standards as certified by one of the certifying bodies. There are several certification bodies operating in Ontario. A farmer wishing to be certified applies to a certification body requesting an independent inspection of the farm to validate that the organic farm meets their standards. Farmers, processors and traders are each required to maintain the organic integrity of the product and to maintain a document trail for auditing purposes. Products from certified organic farms are labelled and promoted as certified organic. Food products labelled as organic must contain at least 95% organic ingredients (not including water and salt). The organic ingredients can be listed on the label when at least 70% of the product ingredients are organic.

In September 2006 the Canadian government introduced draft regulations to regulate organic products in Canada. Under these regulations the Canadian Food Inspection Agency (CFIA) will oversee organic certification in Canada including accreditation and certification bodies. This regulation also references the *Canadian Organic Production Systems General Principles and Management Standards* (CAN/CGSB-32.310) and the *Organic Production Systems – Permitted Substances List* that were revised in 2006. Once these regulations are finalized and international equivalency agreements are negotiated, international trade opportunities should be enhanced. Currently each certification body maintains standards for organic certification and while various standards are largely similar, they may differ on some specific details since some certification bodies have adopted additional standards appropriate for specific international markets. For more information on certification and links to Canadian regulations and standards go to the OMAFRA infosheet *Organic Food and Farming Certification* at www.omafra.gov.on.ca/english/crops/organic/ certification.htm or the CFIA website at www.inspection.gc.ca.

When certifying your business, it is important to know the markets your products will serve and the requirements and organic accreditation your products will need. When comparing certification bodies, make sure they have the certification you need. Some certification bodies have accreditation or equivalency agreements with countries in the EU (European Union), United States National Organic Program (USDA-NOP), Japanese Agricultural Standard (JAS), Standards Council of Canada (SCC), Conseil des appellations agroalimentaires du Québec (CAAQ) or other organic certification systems.

The labels may indicate "Certified Organic", "Verified Organic" or "Demeter", depending on the certification agency.

The new Canadian regulations regulate all products intended for export or inter-provincial trade and products using the new "Canada Organic" mark or logo as seen here.

ARE ORGANIC FARMS SUCCESSFUL

Farming is never easy. In organic farming, farmers choose not to use some of the convenient chemical tools available to other farmers. Management and design of the production system become even more critical to the success of the farm. Select enterprises that complement each other and set up the crop rotation and tillage practices to avoid or reduce crop problems.

Cereal and forage management systems tend to adapt to organic systems quite readily due to relatively low pest pressures and nutrient requirements. Soybeans also adapt quite well but weeds can be a challenge. Corn is being grown more frequently on organic farms but careful management of weed control and fertility is needed, especially nitrogen requirements. Corn can be successfully grown after forage legumes or if manure has been applied. Markets for organic feed grains have been strong in recent years.

The adoption of genetically engineered hybrids of corn on conventional farms has created issues of buffer zones or isolation distance for organic corn and similar issues exist for canola crops. Check with the certification bodies for more details on appropriate buffer distances from conventional and genetically engineered crops. Cross-pollinated crops such as corn and canola require a much greater distance than self-pollinated crops such as soybeans or cereals.

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Yields on each organic crop varies, depending on the success of the manager. During the transition from conventional to organic, production yields are usually somewhat less than conventional levels, but after a 3–5 year transition period, the organic yields typically increase.

In fruit and vegetable crops, the challenges are greater and vary between crops. Some crops and managers have been very successful, while other farms with the same crop have had significant problems. Certain insect or disease pests are more serious in some regions than in others. Some pest problems are difficult to manage with organic methods. This is improving with more organically approved biopesticides than were previously available. Marketable yields of organic horticultural crops are frequently below non-organic crop yields. Some of these crops are slightly below and others are significantly lower. Some organic producers have added value to their product with on-farm or small scale processing. An example is to make jams, jellies, juice, etc.

Livestock products can also be produced organically. In recent years, organic dairy products have become popular. There is also an expanding market for organic meat products. Animals must be fed 100% organic feeds (except under exceptional circumstances as permitted by the certification body). Feed must not contain mammalian or poultry by-products. All genetically engineered organisms and substances are prohibited. Antibiotics, growth hormones and insecticides are prohibited. If an animal is sick and antibiotics are necessary for the recovery of the animal, antibiotics can be administered and the animal must then be segregated from the organic livestock herd and cannot be sold as organic. Vaccinations are permitted when diseases cannot be controlled by other means and with authorization of the certifying body. Artificial insemination is permitted. Always check with the certifying agency to see if the product or techniques you want to use are allowed. Organic standards must also respect other federal, provincial and municipal regulations.

ARE PRICE PREMIUMS AVAILABLE?

Organic produce can usually qualify for higher prices than non-organic products. These premiums vary with the crop and may vary on whether you are dealing with a processor, wholesaler, retailer or directly with the consumer. Prices and premiums are negotiated between the buyer and the seller and will vary depending on local supply and demand.

Higher prices offset higher production costs (per unit of production) of management, labour, and for lower farm yields. These differences vary with commodity. Some field crop producers, particularly cereals and forages, report very little change in yield while in some horticultural crops such as tree fruits, significant differences in marketable yield have been observed. There may also be higher marketing costs to develop markets since there is less infrastructure than for many conventional commodities. Currently, demand is greater than supply for most organic products.

WHAT IS THE TRANSITION PERIOD?

The first few years of organic production are the hardest. Organic lands must be managed using organic practices for 36 months prior to harvest of the first certified organic crop. This is called the "transition period" when both the soil and the manager adjust to the new system. Insect and weed populations also adjust to the new system.

Cash flow can be a problem due to the unstable nature of the yields and the fact that price premiums are frequently not available during the transition since products do not qualify as "certified organic". For this reason, some farmers choose to convert to organic production slowly.

Carefully prepare a plan for conversion. Try 10%–20% the first year (always pick one of your best fields to start), and then expand organic acreage when you are more comfortable and confident in your new system. It may take 5–10 years to become totally organic, but long term it is often more successful than a rapid conversion, especially when financial constraints are considered. Some certification bodies expect farmers with parallel production (both organic and conventional) to complete their conversion to organic within five years. Farmers should use good sanitation, visually different varieties and individual animal I.D. and other systems to maintain separation and integrity of the organic and conventional products. Good records are essential.

SUMMARY

Organic farming can be a viable alternative method of production for farmers, but there are many challenges. One key to success is to be open to changing your thinking. What is causing the problem, rather than, how do I cure (or kill) the pest or problem.

SOURCES OF INFORMATION

- **COG — Canadian Organic Growers Inc.**
  323 Chapel St.,
  Ottawa ON K1N 7Z2
  Phone: (613) 216-0741, 1-888-375-7383
  E-mail: info@cog.ca
  Website: www.cog.ca
- **EFAO — Ecological Farmers Association of Ontario**
  5420 Highway 6 North,
  RR5, Guelph, ON N1H 6S2
  Phone: (519) 822-8606
  E-mail: info@efao.ca
  Website: www.efao.ca

- **OMAFRA — Ontario Ministry of Agriculture, Food and Rural Affairs**
  1 Stone Road W., Guelph, ON N1G 4Y2
  Agr. Information Contact Centre 1-877-424-1300
  Website: www.ontario.ca/crops

- **OACC — Organic Agricultural Centre of Canada**
  Nova Scotia Agricultural College
  Box 550, Truro, Nova Scotia, B2N 5E3
  Phone: (902) 893-7256, Fax: (902) 893-3430
  E-mail: oacc@nsac.ca
  Website: www.organicagcentre.ca

- Guelph **Organic Conference**
  For information contact:
  Tomás Nimmo, Box 116,
  Collingwood, ON L9Y 3Z4
  Phone: (705) 444-0923, Fax (705) 444-0380
  E-mail: organix@georgian.net
  Website: www.guelphorganicconf.ca/

- **OCO - Organic Council of Ontario**
  R.R.#5 Guelph, ON N1H 6J2
  Phone: (519) 827-1221; Fax: (519) 827-0721
  E-mail: kim@organiccouncil.ca
  Website: www.organiccouncil.ca

WEBSITES

The following websites are a limited list of useful resources. There are many other valuable sites depending on your interests. Explore these and look for links to other organic sites on the Web.

- Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) — www.ontario.ca/crops – click on Organic Crops link
- Agriculture and Agri-Food Canada (AAFC) http://sea.agr.gc.ca/can/3590_e.htm
- Organic Agriculture at the University of Guelph — www.organicag.uoguelph.ca
- Canadian Health Food Association (CHFA) — www.chfa.ca
- Cyber-Help for Organic Farmers — www.certifiedorganic.bc.ca/rcbtoa/
- EAP — Ecological Agriculture Project — www.eap.mcgill.ca/index.htm
- Knives and Forks — www.organicadvocates.org
- Organic Crop Producers and Processors Inc (OCPP and OCPRO) — www.ocpro.ca
- Organic Trade Association (OTA) — www.ota.com/index.html
- REAP — Resource Efficient Agricultural Production — www.reap-canada.com
- SBDFG — Society for Bio-Dynamic Farming and Gardening in Ontario — www.biodynamics.on.ca/
- Table *Filière* (biologique) du Québec — www.mapaq.gouv.qc.ca/Fr/md/filieres/bio
- International Federation Of Organic Agriculture Movements — www.ifoam.org
- National Organic Program (USDA NOP) — www.ams.usda.gov/nop/indexIE.htm
- Organic Materials Research Institute — www.omri.org/
- Northeast Organic Network — www.neon.cornell.edu

REFERENCES

- The Organic Center — www.organic-center.org
- The New Farm — www.newfarm.org
- Sustainable Agriculture Network — www.sare.org
- USDA Alternative Farming Systems Information Center — http://riley.nal.usda.gov/nal_display/index.php?tax_level=1&info_center=2
- U.S. National Sustainable Farming Information Center (ATTRA) — www.attra.org
- Organic Eprints — www.orgprints.org
- Canadian Organic Growers Publications — www.cog.ca/
  - Organic Field Crops Handbook. 2001
  - Organic Livestock Handbook. 2000
  - Gaining Ground – Making the Transition to Organic Farming. 2005
  - Database of Organics in Canada. (online)

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